

CHAPTER FOUR

Fun Failure and Better Odds of Success

No one likes to fail. So how is it that gamers can spend 80 percent of the time failing, and still love what they're doing?"

Games researcher Nicole Lazzaro likes to stump audiences with tough questions, and this is one of her favorites. Lazzaro, an expert on game-play emotions, has been working in the game industry for twenty years as a design consultant. She reports her research findings and design recommendations to the industry annually at the Game Developers Conference. And perhaps her most significant finding yet is this: gamers spend nearly all of their time failing. Roughly four times out of five, gamers don't complete the mission, run out of time, don't solve the puzzle, lose the fight, fail to improve their score, crash and burn, or die.¹

Which makes you wonder: do gamers actually *enjoy* failing?

As it turns out, yes.

Lazzaro has long suspected that gamers love to fail, and a team of psychologists at the M.I.N.D. Lab in Helsinki, Finland, recently confirmed it with scientific evidence. When we're playing a well-designed game, failure doesn't disappoint us. It makes us happy in a very particular way: excited, interested, and most of all *optimistic*.²

If that finding surprises you, then you're not alone—the Finnish researchers weren't expecting that result, either. But today, the "fun failure" study is considered one of the most important findings in the history of video game research.³ It helped pinpoint for the first time exactly how a well-designed game helps players develop exceptional mental toughness.

Why Failure Makes Us Happy

The M.I.N.D. Lab is a state-of-the-art psychophysiology research center, packed with biometric systems designed to measure emotional response: heart rate monitors, brain wave monitors, electrical sensors, and more.

In 2005, to kick off a new research effort focused on emotional response to video games, the lab invited thirty-two gamers to play the highly popular *Super Monkey Ball 2* while hooked up to the biometric monitors. In the bowling-style game, players roll "monkey balls," or transparent bowling balls with monkeys inside them, down crooked bowling lanes that happen to be floating in outer space. Throw a gutter ball at any point, and the monkey rolls right off the edge of the lane, whirling off into the atmosphere.

While the gamers played, the researchers measured three indicators of emotional engagement: heart rate, because we pump blood faster when we're emotionally aroused; skin conductivity, because we sweat more when we're under stress; and electrical activation of the facial muscles, because we move certain muscles like the zygomaticus major muscle, which pulls the corners of the mouth back and up into a smile, when we're happy.

After collecting all of this physiological data, the researchers compared it against a log of key gameplay events—just before rolling the monkey ball, the moment of a successful strike, just after a gutter ball, and so on. Their goal: to identify what triggered the strongest emotional reactions, both positive and negative.

The M.I.N.D. Lab team expected that gamers would exhibit the strongest positive emotion when they earned high scores or when they completed difficult levels—in other words, during the triumphant *fiero* moments. The

players did indeed show peaks of excitement and satisfaction during these moments. But the researchers noticed another set of positive emotion peaks that caught them off guard. They found that players exhibited the most potent combination of positive emotions when they made a mistake and sent the monkey ball veering off the side of the lane. Excitement, joy, and interest shot through the roof the second they lost their monkey ball.

Initially, the researchers were perplexed by the gamers' positive emotional reaction to "complete and unquestionable failure in the game." When we fail in real life, we are typically disappointed, not energized. We experience diminished interest and motivation. And if we fail again and again, we get more stressed, not less. But in *Super Monkey Ball 2*, failure seems to be more emotionally rewarding than success.

What was so interesting about failure in *Super Monkey Ball 2*? And why would it make gamers happier than winning?

The M.I.N.D. Lab interviewed the players and consulted with game designers in order to make sense of their findings. After much consideration, they concluded: failure in *Super Monkey Ball 2*, in an odd way, was something players could be proud of.

Whenever a player made a mistake in *Super Monkey Ball 2*, something very interesting happened, and it happened immediately: the monkey went whirling and wailing over the edge and off into space. This animation sequence played a crucial role in making failure enjoyable. The flying monkey was a reward: it made players laugh. But more importantly, it was a vivid demonstration of the players' agency in the game. The players hadn't failed passively. They had failed spectacularly, and entertainingly.

The combination of positive feeling and a stronger sense of agency made the players eager to try again. If they could send a monkey into outer space, then surely they could knock over a few bowling pins or roll over a few more bananas next time.

When we're reminded of our own agency in such a positive way, it's almost impossible not to feel optimistic. And that's the positive effect the researchers were measuring in the M.I.N.D. Lab: excitement, joy, and interest. The more we fail, the more eager we are to do better. The researchers were able

to demonstrate this: the right kind of failure feedback is a reward. It makes us more engaged and more optimistic about our odds of success.

Positive failure feedback reinforces our sense of control over the game's outcome. And a feeling of control in a goal-oriented environment can create a powerful drive to succeed. Another player describes this phenomenon perfectly: "*Super Monkey Ball* is pretty much the dictionary definition of addictive. It brilliantly balances the intense frustration at failing to complete a course with the absolute desire to have 'just one more go.'"⁴ To optimists, setbacks are energizing—and the more energized we get, the more fervently we believe that success is just around the corner. Which is why, on the whole, gamers just don't give up.

We aren't used to feeling so optimistic in the face of things that are extremely difficult for us. That's why so many gamers relish wickedly hard game content. Nearly every review you'll find of the *Super Monkey Ball* games praises them with descriptions such as "insanely frustrating" and "fiendishly difficult." We like it that way, precisely because it's so rare in real life to feel sincere, unabashed hope in the face of such daunting challenges.

It helps, of course, that gamers believe they have every chance of success when they sit down to play a new game. Justifiable optimism is built right in to the medium. By design, every computer and video game puzzle is meant to be solvable, every mission accomplishable, and every level passable by a gamer with enough time and motivation.

But without positive failure feedback, this belief is easily undermined. If failure feels random or passive, we lose our sense of agency—and optimism goes down the drain. As technology journalist Clive Thompson reminds us, "It's only fun to fail if the game is fair—and you had every chance of success."⁵

That's why Nicole Lazzaro spends so much time consulting with game developers about how, exactly, to design failure sequences that are spectacular and engaging. The trick is simple, but the effect is powerful: you have to show players their own power in the game world, and if possible elicit a smile or a laugh. As long as our failure is interesting, we will keep trying—and remain hopeful that we will succeed eventually.

Which gives us our next fix for reality:

FIX #4: BETTER HOPE OF SUCCESS

Compared with games, reality is hopeless. Games eliminate our fear of failure and improve our chances for success.

In many cases, that *hope* of success is more exciting than success itself.

Success is pleasurable, but it leaves us at a loss for something interesting to do. If we fail, and if we can try again, then we still have a mission.

Winning tends to end the fun. But failure? It keeps the fun going.

“Games don’t last forever,” says Raph Koster, a leading creative director of online games and virtual worlds. “I play something I’m good at, I get really far and do really well, then I get bored.”⁶ And that’s when he stops playing and moves on to the next game. Why? Because being really good at something is less fun than being *not quite good enough*—yet.

Koster has written a book much beloved in the game industry, *A Theory of Fun for Game Design*, in which he argues that games are “fun” only as long as we haven’t mastered them. He writes, “Fun from games arises out of mastery. It arises out of comprehension. . . . With games, *learning* is the drug.” And that’s why fun in games lasts only as long as we’re not consistently successful.⁷

It’s something of a paradox. Games are designed for us to learn them, get better at them, and eventually be successful. Any gamer who puts in the effort can’t help but get better. And yet the better we are at a game, the less of a challenge it presents. Harder levels and tougher challenges can keep the feeling of “hard fun” alive for a while. But if we keep playing, we keep getting better—and so it’s inevitable: the unnecessary obstacle becomes less of an obstacle over time.

That’s why, Koster says, “the destiny of games is to become boring, not to be fun. Those of us who want games to be fun are fighting a losing battle against the human brain.”⁸ Fun will always morph into boredom, once we pass the critical point of being reliably successful. This is what makes games *consumable*: players wring all the learning (and fun) out of them.

Fun failure is a way to prolong the game experience and stretch out the learning process. Meanwhile, when we can enjoy our own failure, we can spend more time suspended in a state of urgent optimism—the moment of hope just before our success is real, when we feel inspired to try our hardest and do our best.

Learning to stay urgently optimistic in the face of failure is an important emotional strength that we can learn in games and apply in our real lives. When we’re energized by failure, we develop emotional stamina. And emotional stamina makes it possible for us to hang in longer, to do much harder work, and to tackle more complex challenges. We need this kind of optimism in order to thrive as human beings.

Scientists have found that optimism is closely correlated to a higher quality of life in pretty much every way imaginable: better health, a longer life, less stress and anxiety, more successful careers, better relationships, more creativity, and more resilience in the face of adversity. This isn’t surprising: optimism is what allows us to take action to improve our lives, and the lives of others. It allows us to flourish—to create the best life possible for ourselves. Flourishing isn’t about pleasure or satisfaction; it’s about living up to our fullest potential. And to truly flourish, we have to be optimistic about our own abilities and opportunities for success.

In fact, optimism about our own abilities not only makes us happier in the moment, it also increases our likelihood of success and feeling happier in the future. Numerous studies have shown that students, executives, and athletes are consistently more successful if they agree with statements like “I have the ability to change things with my actions” or “I am in control of my own fate.”⁹ Other studies show that when we’re in an optimistic state of mind, we pay more attention, think more clearly, and learn faster.¹⁰ Hope primes our minds for real success.

Of course, it’s possible to go overboard: too much optimism can be as harmful as too little. We have to have the right level of optimism for the occasion. Martin Seligman recommends adopting what he calls “flexible optimism”: continually assessing our abilities to achieve a goal, and intensifying or reducing our efforts accordingly.

When we practice flexible optimism, we see more opportunities for success—but we don't overstate our abilities, and we don't overestimate the amount of control we have over an outcome. And we reduce our optimism when we get feedback that we're pursuing unattainable goals or operating in a low-control environment. We recognize that our time and energy would be better spent elsewhere.

Games are perfect environments for practicing flexible optimism. And we do need help practicing more flexible optimism in everyday life. Randolph Nesse, a professor of evolutionary medicine at the University of Michigan, believes that our happiness depends on it—and has depended on it since the earliest days of human civilization.

Nesse's research focuses on the evolutionary origins of depression. Why does depression exist at all? If it's stayed in our gene pool for so long, he argues, there must be some evolutionary benefit. Nesse believes that depression may be an adaptive mechanism meant to prevent us from falling victim to blind optimism—and squandering resources on the wrong goals.¹¹ It's to our evolutionary advantage not to waste time and energy on goals we can't realistically achieve. And so when we have no clear way to make productive progress, our neurological systems default to a state of low energy and motivation.

During this period of mild depression, Nesse theorizes, we can conserve our resources and search for new, more realistic goals. But if we persist in pursuing unattainable goals? Then, Nesse proposes, the mechanism kicks into overdrive, triggering *severe* depression.

Nesse thinks this mechanism, and our tendency to set unrealistic goals, may be the cause of much of the current depression epidemic in the United States. We set extreme goals: fame, fortune, glory, and supersized personal achievements. We're encouraged, says Nesse, to believe that we can do anything we set our hearts to, and then we try to achieve dreams that are just unrealistic. We don't pay attention to our real skills and abilities, nor do we put our efforts toward the goals we are capable of achieving. We're distracted by extreme dreams—even when our evolutionary mechanism kicks in, signaling our ill-fated efforts.

But games can take us out of this depressive loop. They give us a *good*

reason to be optimistic, satisfying our evolutionary imperative to focus on attainable goals. As happiness researcher Sonja Lyubomirsky writes, "We obtain maximum happiness when we take on flexible and appropriate goals."¹² Good games provide a steady flow of actionable goals in environments we know are designed for our success—and they give us the chance to inject some flexible and appropriate goals into our daily lives whenever we need them most.

The success we achieve in games is not, of course, real-world success. But for many people it is more *realistic* than the kinds of success we put pressure on ourselves to achieve—whether it's money, beauty, or fame.

It's depressing to spend our lives pursuing unrealistic goals. For anyone who wants to opt out of this culture of extreme dreaming, games help enormously: they shift our attention away from depressing goals and train us to be more flexibly optimistic. Today's best games help us *realistically* believe in our chances for success.

Of course, this might not be a perfect solution to the problem of unattainable goal setting in contemporary society. But in the meantime, it *does* make us feel better and builds our capacity for flexible optimism. We can opt out of whatever "the dream" is supposed to be, and focus our efforts instead on goals that give us real practice at working hard, getting better, and mastering something new.

Take, for example, the wildly popular video game *Rock Band 2*. The musical rhythm video game series has probably given us more exciting, realistic goals than any other video game in the history of the medium. It racked up more than a billion dollars of sales in its first year.¹³ And along the way to becoming the number one best-selling game of 2009, as well as one of the most successful video games of all time, it has turned millions of players into aspiring hopefuls—and spectacular failures.

The Hope of Rock Star Success

To be a rock star is shorthand in our culture for supersized success. It's one of our favorite symbols of status and fame—and it's something that virtually none